REMARKS

INTERVIEW SUMMARY

The undersigned attorney and the Examiner conducted a telephone interview on November 8, 2005. During that interview, the parties agreed to the appropriate correction required to overcome the 112 rejections. No agreement was reached, however, with respect to the prior art rejections. Applicants' attorney attempted to illuminate the relationship of the Bunsen coefficient to the amount of nitrogen within a particular system. The Examiner attempted to explain the type of data or experimental showing that would be required to either undermine any *prima facie* case of obviousness or that might establish a lack of obviousness based upon unexpected results. The Examiner indicated that he was unaware of any amendment that would put the case in condition for allowance.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner has rejected claims 10-12 under 35 U.S.C. § 112, second paragraph. The Examiner contends that the term "type" is indefinite. The term "type" has been removed from the claims thereby rendering the Examiner's rejection moot.

The Examiner has rejected claims 1-4, 6, 7, 10-12, 21-24, and 27 under 35 U.S.C. § 112, second paragraph. The Examiner contends that the claims are confusing as to the intent because it cannot be determined what value pertaining to the Bunsen Coefficient is intended. The Examiner contends that the recitation of the limitation pertaining to the Bunsen Coefficient in claims 1 and 10 do not parallel the recitation in claim 16.

The claims have been amended to consistently make reference to the Bunsen Coefficient thereby obviating any potential confusion. Also, in view of the telephone interview that was conducted, as noted above, and the description within the written description, particularly at page 10, Applicants believe that the term Bunsen Coefficient should be understood.

REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-4, 6, 7, 10-12, 16-18, and 21-29 under 35

U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,882,052 to Raynor et al. in view of U.S. Patent No. 5,278,195 to Volkert et al. According to the Examiner, Raynor discloses preparations of isocyanate-based rigid foams prepared by contacting streams of isocyanate component and polyol component wherein the contacting takes place in the presence of blowing agent in nitrogen gas to enhance the foaming action, and wherein the materials are applied to surface that meets the criteria of "laminator" as defined by the claims. The Examiner cites the entire document in support. Also, the Examiner relies on column 6, lines 65 *et seq.* to maintain that Raynor teaches control over the flow rates of its reactants. The Examiner acknowledges that Raynor differs from the claimed invention with respect to formation of polyurethane foams. In order to compensate for this shortcoming, the Examiner relies on Volkert, which allegedly discloses that control of the relative amounts of reactive materials dictates formation of isocyanurate foam products rather than polyurethane products. Also, the Examiner believes that Volkert provides motivation for achieving increased flame retardancy as a reason to desire a modulation in reactant amounts. Accordingly, the Examiner believes that it would have been obvious to have modified the NCO indices in a manner taught by Volkert within practice of Raynor for the purpose of increasing flame retardancy.

As previously presented, the fact that Raynor does not teach, suggest, or motivate one skilled in the art to practice the claimed invention should be appreciated. To begin with, Raynor is concerned with forming a non-froth composition. Therefore, although Raynor teaches the addition of nitrogen gas in the amount of 0.003% to about 0.08% by weight[1], one would not be inclined to add an amount of nitrogen beyond an amount that would achieve frothing because the same would defeat the purpose of Raynor's teachings. As Applicants have taught, and as demonstrated in the contemporaneously filed Declaration of Dr. John Letts, frothing occurs by adding nitrogen to the system in the amounts specified in the claims and written description. Accordingly, Applicants maintain that Raynor cannot form the basis of a rejection of a claim that employs nitrogen in an amount sufficient to achieve frothing.

Likewise, Applicants maintain that Raynor cannot form the basis of a rejection inasmuch as Raynor's is concerned with addressing a completely problem, and addresses the problem in a manner that teaches against the claimed invention.

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[1] Column 4, lines 15-32.

Specifically, Raynor is concerned with solving the problem of limited flow consistency that results from the use of auxiliary blowing agents, which causes polyurethane mixtures to have the consistency of aerosol shaving cream (*i.e.*, frothed foam).[2] As a result, these polyurethane mixtures cannot be satisfactorily used in molding intricate foam articles.[3] Therefore, Raynor sought to form non-froth polyurethane foams.[4]

In contradistinction, the Applicants sought to solve problems associated with the dimensional stability of polyisocyanurate foam insulation boards. As set forth in the written description and the Declaration of John Letts, the Applicants improved the dimensional stability of these insulation boards by increasing the "frothiness" of the polyisocyanurate mixture. This is the antithesis of Raynor's teaching. And, Volkert does not satisfy these shortcomings.

REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,264,464 to Wishneski et al. in view of U.S. Patent No. 5,278,195 to Volkert et al. According to the Examiner, Wishneski discloses preparations of isocyanate-based rigid foams prepared by contacting streams of isocyanate component and polyol component wherein the contacting takes place in the presence of blowing agent in nitrogen gas to enhance the foaming action, and wherein the materials are applied to surface that meets the criteria of "laminator" as defined by the claims. The Examiner cites the entire document in support. Also, the Examiner relies on column 9, lines 32-34 to maintain that Wishneski teaches control over the flow rates of its reactants. The Examiner acknowledges that Wishneski differs from the claimed invention with respect to formation of polyurethane foams. In order to compensate for this shortcoming, the Examiner relies on Volkert, which allegedly discloses that control of the relative amounts of reactive materials dictates formation of isocyanurate foam products rather than polyurethane products. Also, the Examiner believes that Volkert provides motivation for achieving increased flame retardancy as a reason to desire a modulation in reactant amounts. Accordingly, the Examiner believes that it would have been obvious to have modified the NCO indices in a manner taught

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[2] Raynor column 1, lines 38-51.
[3] *Id.* at lines 55-62.
[4] *Id.* at lines 62-65.

by Volkert within practice of Wishneski for the purpose of increasing flame retardancy.

As previously presented, Wishneski does not teach or suggest the use of an amount of nitrogen or air at an amount 1.25 times the amount of the Bunsen Coefficient. Instead, Wishneski is concerned with replacing the blowing agent FREON 12 with fluorocarbon R-22 (*i.e.*, monochlorodifluoromethane). Columns 8, 9, and 10 suggest that in the manufacture of foams, the ingredients (*e.g.*, the isocyanate ingredient and the polyol ingredient) can be transported from their supply sources by use of nitrogen pressure. The use of nitrogen to assist in the delivery of urethane ingredients does not suggest adding to the ingredients an amount of nitrogen sufficient to achieve 1.25 times the Bunsen Coefficient. This is especially true in view of the fact that the raw materials employed in the urethane reaction could very well include an amount of nitrogen well below the Bunsen Coefficient. Thus, even if nitrogen were dissolved into the ingredients from the use of nitrogen in assisting the delivery of the ingredients, this amount of nitrogen could very well not even achieve the Bunsen Coefficient, let alone 1.25 times the Bunsen Coefficient. Accordingly, Wishneski's simple use of nitrogen for purposes of delivering ingredients does not teach or suggest the claimed invention. And, Volkert does not supply any teaching or suggestion to overcome this shortcoming. Accordingly, there can be no *prima facie* case of obviousness.

CONCLUSION

In view of the foregoing amendments and arguments presented herein, the Applicants believe that they have properly set forth the invention and accordingly, respectfully requests the Examiner to the rejections provided in the last Office Action. A formal Notice of Allowance of claims 1 and 30-41 is earnestly solicited. Should the Examiner care to discuss any of the foregoing in greater detail, the undersigned attorney would welcome a telephone call.

This amendment is being filed contemporaneously with a Request for Continued Examination. Should the Examiner have any questions, the undersigned attorney would welcome a telephone call.

No fee is believe due with the filing of this amendment, nonetheless, in the event that a fee required for the filing of this document is missing or insufficient, the undersigned attorney hereby authorizes the Commissioner to charge payment of any

fees associated with this communication or to credit any overpayment to Deposit Account No. 06-0925.

Respectfully submitted,

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